Attachment A

Economic Analysis

of Mr. J. Gregory Sidak

and Dr. Hal J. Singer

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

In the Matter of	)	
	)	
Nondiscrimination in the Distribution of	)	CS Docket No. 01-7
	)	
Interactive Television Services over Cable	)	

DECLARATION OF J. GREGORY SIDAK AND HAL J. SINGER

INTRODUCTION

1. In this declaration, we address the Commission's concern expressed in its *Notice of Inquiry* that a vertically integrated firm that is both a multichannel video programming distributor (MVPD) and an interactive television services provider could discriminate in favor of affiliated interactive services.[1] Our academic research on network access,[2] essential facilities,[3] and vertical foreclosure[4] enables us to provide the Commission a coherent framework with which to analyze those complex economic issues. Refusing to carry interactive content is a form of "content discrimination." It results in some lost in-region access sales to cable customers, but

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1. Nondiscrimination in the Distribution of Interactive Television Services over Cable, Notice of Inquiry, CS Dkt No. 01-7, 66 FR 7913 (released Jan. 18, 2001) [hereinafter *Notice of Inquiry*].

2. *See, e.g.*, J. GREGORY SIDAK & DANIEL F. SPULBER, DEREGULATORY TAKINGS AND THE REGULATORY CONTRACT: THE COMPETITIVE TRANSFORMATION OF NETWORK INDUSTRIES IN THE UNITED STATES (Cambridge University Press 1997); WILLIAM J. BAUMOL & J. GREGORY SIDAK, TOWARD COMPETITION IN LOCAL TELEPHONY (MIT Press & AEI Press 1994);

3. *See, e.g.*, Howard A. Shelanski & J. Gregory Sidak, *Antitrust Divestiture in Network Industries*, 68 U. CHI. L. REV. 1 (2001); J. Gregory Sidak, *An Antitrust Rule for Software Integration*, 18 YALE J. ON REG. 1 (2001); Jerry A. Hausman & J. Gregory Sidak, *A Consumer-Welfare Approach to the Mandatory Unbundling of Telecommunications Networks*, 109 YALE L.J. 417 (1999); Abbott B. Lipsky, Jr. & J. Gregory Sidak, *Essential Facilities*, 51 STAN. L. REV. 1185 (1999).

4. *See, e.g.*, Daniel L. Rubinfeld & Hal J. Singer, *Vertical Foreclosure in High Technology Industries: A Case Study of the AOL Time Warner Merger*, 16 BERKELEY TECH. L. REV. 630 (forthcoming 2001); Jerry A. Hausman, J. Gregory Sidak & Hal J. Singer, *Cable Modems and DSL: Broadband Internet Access for Residential Customers*, 91 AM. ECON. ASS. PAPERS & PROC. 302 (2001).

it potentially increases sales of affiliated interactive content and its associated advertising across the entire nation.

2. Interactive television, or ITV, is a new generation of video programming that has the potential to revolutionize the consumer's television-viewing experience. For example, the Commission forecasts: "ITV services, provided over a high speed platform, will offer, *inter alia*, increased viewer control of the television viewing experience; integration of video and data services, including web content; real-time interaction with other viewers; and television commerce ('t-commerce')."[5] Because of its potential, interactive television is often described as a "nascent" product, as if it does not yet exist. This characterization of interactive television service as an innovation yet to manifest itself leads, in turn, to the view among some interested constituencies that the proper competition policy for interactive television is intractable to formulate, so much so that it is more harmful for the FCC to do anything rather than nothing to articulate such a policy. Some believe that it is harmful, given the supposedly nascent state of interactive television, for the FCC even to ask whether it is appropriate to have competition rules for interactive television.

3. For its part, the FCC has recognized that competitive concerns could arise: "If it turns out that only one delivery platform in each geographic area has the capability to provide the most attractive ITV services package, and if the platform provider is vertically integrated with an ITV service provider, then there would be the potential for anticompetitive behavior."[6] We believe that it is not premature for the FCC to consider this possibility. The economic literature on vertical foreclosure can shed light on "how to make the principle of nondiscrimination

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5. *Notice of Inquiry, supra* note 1, at ¶ 1 (footnote omitted).
6. *Id.*

operational and whether the principle should be applied to cable television operators unaffiliated with an ITV provider."[7]

4. The FCC defines interactive television as "a service that supports subscriber-initiated choices or actions that are related to one or more video programming streams.[8] Interactive television services are as varied as non-interactive services.[9] The FCC considers an interactive television service to consist of "a video signal plus related ITV enhancements," although some interactive services, such as email or instant messaging, "may not be associated with a particular video signal."[10] In turn, the FCC defines a video signal to be "the basic video programming stream, broadcast or non-broadcast, with which ITV enhancements are associated."[11]

5. The FCC envisions there being "three major building blocks for delivery of ITV services."[12] The first such building block, a video stream, "is provided simultaneously to a group of viewers or subscribers," as in the case of "a high-capacity MPEG video stream."[13] The second building block is a two-way connection that can "carry upstream requests from the subscriber . . . to access ITV enhancements from Internet sites" and "deliver those enhancements to the

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7. *Id.* at ¶ 3.
8. *Id*, at ¶ 6.
9. The FCC gives a number of examples:

   > The subscriber-initiated choice could be to activate an electronic programming guide ("EPG") in order to gather information about viewing options, and then choose from a menu of video signals being "broadcast" to all subscribers (e.g., selecting a football game on ESPN) or to initiate a "customized" (i.e., to one subscriber only) transmission of a video stream (e.g., interactive content related to the video stream). The choice could be to access an alternative but related video signal, e.g., transmission of a different camera angle on a sporting event. Alternatively, it could be to access a chat room or email service to be used in conjunction with a video stream. Another possibility could be to access a graphic interface, e.g., a screen or screens that wraps around the video signal(s) being displayed, which provides supplementary information related to the video display or the opportunity for "t-commerce" (the purchase of merchandise related to the displayed video signal).

   Id.
10. *Id.* at ¶ 7.
11. *Id.* at ¶ 8.

subscriber's video display."[14] These upstream and downstream transmissions could take place over the Internet. The third building block is "specialized customer premises equipment," also known as the "interactive television service set top box."[15] A discriminatory strategy could address any one of these three critical inputs to the production of interactive television services.

6. Although we are skeptical about the application of monopoly leveraging theories in general, we do not embrace the notion that anticompetitive harm from vertical discrimination can never occur. Given the history of regulation of the cable industry's perceived anticompetitive practices, it is possible that vertical discrimination is more prevalent among cable firms than among other kinds of firms. By applying the appropriate test of consumer harm to the present case, we conclude that a (vertically integrated) cable firm has the ability and the incentive to engage in anticompetitive behavior against unaffiliated interactive content providers in any one of three ways.

7. *First*, the cable firm can degrade the quality of the interactive portion of a program supplied by an unaffiliated content provider. *Second*, the cable firm can refuse to carry the interactive portion of a program supplied by an unaffiliated content provider. An example of the second form of discrimination would be to hide the interactive trigger on the viewer's television screen. Another example would be to allow that trigger to appear on the viewer's screen, but disable its functionality. *Third*, the cable firm can condition carriage of the interactive portion of a program of an unaffiliated content provider upon its payment of an exorbitant rate that is tantamount to a refusal to carry such content. Under any of the above strategies, the cable firm could significantly harm the welfare of consumers who subscribe to a multichannel video

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12. *Id.* at ¶ 10.
13. *Id.*
14. *Id.* at ¶ 12.

program distributor (MVPD)—both non-cable subscribers in the short term and cable subscribers in the long term. The fact that Time Warner has insisted on preserving its right to discriminate against interactive content as a condition of entering into contracts with *non*-interactive content providers[16] suggests that, in addition to weighing rigorous economic logic and predisposing market characteristics, it is possible and appropriate for the Commission to consider the likelihood of discriminatory behavior on the basis of concrete evidence.

QUALIFICATIONS

8. Our professional qualifications for submitting this expert report are as follows.

9. My name is J. Gregory Sidak. I am the F.K. Weyerhaeuser Fellow in Law and Economics at the American Enterprise Institute for Public Policy Research (AEI) and the president and chief executive officer of Criterion Economics, L.L.C. I have been a consultant on regulatory and antitrust matters to the Antitrust Division of the U.S. Department of Justice and the Canadian Competition Bureau and to more than forty companies in the telecommunications, electric power, natural gas, mail and parcel delivery, broadcasting, newspaper publishing, recorded music, and computer software industries in North America, Europe, Asia, and Australia.

10. My academic research concerns regulation of network industries, antitrust policy, the Internet and electronic commerce, intellectual property, and constitutional law issues concerning economic regulation. I have directed AEI's Studies in Telecommunications Deregulation since the project's inception in 1992.

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15. *Id.* at ¶ 13.

16. *See, e.g.*, Letter from the National Broadcasting Company, Inc., Applications of America Online, Inc. and Time Warner, Inc. for Transfers of Control, CS Dkt. No. 00-30 (received July 24, 2000) at n3.

11. I served as Deputy General Counsel of the FCC from 1987 to 1989, and as Senior Counsel and Economist to the Council of Economic Advisers in the Executive Office of the President from 1986 to 1987. As an attorney in private practice, I worked on numerous antitrust cases and federal administrative, legislative, and appellate matters concerning telecommunications and other regulated industries.

12. I am the author or co-author of five books concerning pricing, costing, competition, and investment in network industries,[17] and of more than forty scholarly articles in law reviews or economics journals. My writings have appeared in the *American Economic Review Papers and Proceedings, California Law Review, Columbia Law Review, Cornell Law Review, Duke Law Journal, Georgetown Law Journal, Harvard Journal on Law & Public Policy, Industrial and Corporate Change, Journal of Political Economy, New York University Law Review, Northwestern University Law Review, Southern California Law Review, Stanford Law Review, Texas Law Review, University of Chicago Law Review, Yale Law Journal*, and *Yale Journal on Regulation*, as well as in the *Wall Street Journal, Journal of Commerce, Roll Call, Regulation, National Law Journal, Jobs & Capital, Hong Kong Economic Journal, The American Enterprise*, and other periodicals.

13. I have testified before committees of the U.S. Senate and House of Representatives on regulatory and constitutional law matters, and my writings have been cited by the Supreme Court of the United States, the lower federal and state supreme courts, state and federal regulatory commissions, and the European Commission. From 1993 to 1999, I was a

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17. SIDAK & SPULBER, *supra* note 2; WILLIAM J. BAUMOL & J. GREGORY SIDAK, *supra* note 2; WILLIAM J. BAUMOL & J. GREGORY SIDAK, TRANSMISSION PRICING AND STRANDED COSTS IN THE ELECTRIC POWER INDUSTRY (AEI Press 1995); J. GREGORY SIDAK & DANIEL F. SPULBER, PROTECTING COMPETITION FROM THE POSTAL MONOPOLY (AEI Press 1996); J. GREGORY SIDAK, FOREIGN INVESTMENT IN AMERICAN TELECOMMUNICATIONS (University of Chicago Press 1997).

Senior Lecturer at the Yale School of Management, where I taught a course on telecommunications regulation.

14. From Stanford University, I received A.B. (1977) and A.M. (1981) degrees in economics and a J.D. (1981). I was a member of the *Stanford Law Review.* Following law school, I served as a law clerk to Judge Richard A. Posner during his first term on the U.S. Court of Appeals for the Seventh Circuit.

15. My name is Hal J. Singer. I am Senior Vice President of Criterion Economics. My areas of expertise are antitrust, telecommunications and the Internet, spectrum policy, auction design and strategy, and information economics.

16. I have prepared economic expert testimony in support of, or in opposition to, many major telecommunications mergers, including AOL-Time Warner, AT&T-MediaOne, Bell Atlantic-GTE, Deutsche Telekom-VoiceStream Wireless, and WorldCom-Sprint. I have made merger presentations to staff economists and lawyers at the Antitrust Division of the Department of Justice, Federal Communications Commission, and Federal Trade Commission. I have worked on pricing and takings matters concerning mandatory access to telecommunications networks, as well as on empirical estimations of demand for broadband telecommunications services. I am also an expert in the area of auctions. I have advised wireless firms in the U.S. FCC C reauction, the Australian UMTS auction, the German 3G auction, and the U.S. FCC C & F reauction.

17. I have published scholarly articles on telecommunications regulation and spectrum auctions in several economics and legal journals, including the *American Economic Review Papers and Proceedings, Berkeley Technology Law Review, Journal of Regulatory Economics, Hastings Law Journal, Journal of Business and Finance,* and *Yale Journal on Regulation.* My current working papers examine access policy for high-speed Internet systems.

18. Before joining Criterion Economics, I managed the telecommunications practice at an internationally recognized consulting firm. In addition, I have worked as an economist for the Securities and Exchange Commission and have taught microeconomics and international trade at the undergraduate level.

19. I earned M.A. and Ph.D. degrees in economics from the Johns Hopkins University and a B.S. *magna cum laude* in economics from Tulane University.

20. We file this report in our individual capacity and not on behalf of the American Enterprise Institute.

SUMMARY OF CONCLUSIONS

21. This *Notice of Inquiry* is about whether a cable firm can discriminate against unaffiliated content providers that are already supplying non-interactive and interactive content to cable customers who have paid for both traditional cable service *and* broadband Internet access. It is about whether the cable firm can (1) degrade the quality of the interactive portion of a program supplied of an unaffiliated content provider, (2) refuse to carry the interactive portion of a program supplied by an unaffiliated content provider, or (3) condition carriage of the interactive portion of a program of an unaffiliated content provider upon payment of an exorbitant rate that is tantamount to a refusal to carry such content. This *Notice of Inquiry* is about whether the cable firm can favor its affiliated interactive content as soon as the cable set-top box allows for one-screen interactivity.

22. This *Notice of Inquiry* is not about whether an unaffiliated content provider deserves access to the cable broadband conduit. It is not about whether the unaffiliated content provider deserves a free ride on the cable firm's investment in its broadband network. This

Notice of Inquiry is not about whether the cable firm's network is an essential facility as a matter of antitrust law.

23. In Part I of this declaration, we review the consensus on vertical foreclosure in the economics literature. The Neo-Chicago theory on discrimination by a vertically integrated firm is novel and complementary to the motivations of early models of discrimination because, in contrast to the goal of *extending* market power into a complementary market, the dynamic models demonstrate that foreclosure can also be motivated by the goal of *preserving* market power in future periods. We identify the general and specific assumptions of the Neo-Chicago models that must be satisfied before it is appropriate for the Commission to consider any form of regulatory intervention.

24. In Part II, we determine whether the necessary assumptions of the Neo-Chicago models of discrimination are satisfied in the present case. With respect to general assumptions on market structure, the record at the Commission strongly suggests that cable multiple-system operators (MSOs) (1) are vertically integrated into content to a significant degree and (2) have market power in the downstream MVPD market. With respect to specific assumptions for the first motivation for discrimination—*extension* of market power—we determine that there are scale economies in the production of the interactive content and there are at least some customers who perceive unaffiliated interactive content not to be a complement to the cable conduit. With respect to specific assumptions for the second motivation for discrimination—*preservation* of market power—we determine that there are network effects[18] in the consumption of interactive content and that unaffiliated content providers might eventually compete directly or indirectly with cable firms in the downstream MVPD market. To complete our analysis, we next consider

the incentives of a cable MSO to degrade the interactive portion of the content supplied by unaffiliated content providers. We conclude that the vertically integrated cable MSO would have an incentive to degrade the interactive content of unaffiliated content providers if the gain from additional nationwide sales of affiliated content and advertising were expected to offset the reduction in cable access charges resulting from lost cable subscribers who demand the degraded interactive content.

25. In Part III, we highlight the major arguments of the NCTA's experts, identify areas of agreement with our own analysis, and, in areas of disagreement, present rebuttals that are supported by economic theory and empirical evidence. We demonstrate that allowing the cable firm to discriminate against unaffiliated interactive content from unaffiliated content providers would decrease investment and innovation in interactive programming. In contrast to the partial calculus put forward by Drs. Gale and Schwartz, we explain why a cable firm would not consider the costs of discrimination in isolation when deciding whether to discriminate against unaffiliated interactive content. Next, we demonstrate that Professor Elhauge's attack on the essential facilities doctrine is misdirected. Finally, we demonstrate that NCTA's experts incorrectly argue that intervention is never appropriate for a nascent industry

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18. Network effects exist when the utility of using a particular service increases as the number of consumers using that service increases. For example, word processing software is subject to network effects.

I. THE CONDITIONS UNDER WHICH A FIRM SHOULD BE PROHIBITED FROM DISCRIMINATION ARE RARE

A. The Chicago School's Approach to Discrimination

26. The Chicago School successfully undermined most claims of vertical foreclosure and extension of monopoly power by employing the "one bottleneck monopoly" theory.[19] The leverage argument rests on the antitrust law concept of vertical restraints. A vertical restraint restricts a company's buyer or seller relationships with other companies. Antitrust plaintiffs may challenge a vertical restraint as an exclusionary practice, which Judge Richard A. Posner has defined as occurring when a firm "trades a part of its monopoly profits, at least temporarily, for a large market share, by making it unprofitable for other sellers to compete with it."[20] So long as the vertically integrated firm has monopoly power in the downstream market, the Chicago School made clear, it can charge the monopoly price for the downstream good (indeed it might perfectly price discriminate using nonlinear pricing), which allows it to extract all the profits of the upstream producer. Hence, the vertically integrated firm gains nothing from the elimination of its upstream rivals. Under the Chicago view, from a policy perspective, the firm's refusal to deal with an unaffiliated upstream provider should not raise antitrust or regulatory issues. Professor Dennis Carlton of the University of Chicago has shown that, under the above assumptions, even when the refusal to deal allows the firm to practice price discrimination that

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19. *See, e.g.*, RICHARD A. POSNER & FRANK EASTERBROOK, ANTITRUST 802 (West Publishing Co. 2d rev. ed. 1982); ROBERT H. BORK, THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF 144–59 (Basic Books, 1978) (Free Press, rev. ed. 1993). For an early extension of the Chicago School analysis to a network industry, *See* J. Gregory Sidak, *Debunking Predatory Innovation*, 83 COLUM. L. REV. 1121 (1983).

20. RICHARD A. POSNER, ANTITRUST LAW: AN ECONOMIC PERSPECTIVE 28 (University of Chicago Press 1976).

would not otherwise be possible, no intervention by antitrust authorities or regulators is necessary.[21]

B. The Post-Chicago Exceptions

27. Professors Janusz Ordover, Garth Saloner, and Steven Salop were the first economists to model formally the vertical foreclosure calculus in a game-theoretic context.[22] In their model, the integrated firm's refusal to supply inputs to the rival of its downstream division implies that the remaining upstream supplier will face less competition in serving the foreclosed downstream firm.[23] If the nonaffiliated upstream supplier raises its price to the rival downstream firm, the downstream rival will respond by raising the price that it charges to end-users. Hence, the diminished upstream competition caused by conduit foreclosure increases the downstream market share of the integrated firm and supports a higher downstream price and increased profits.[24] Because the foreclosure equilibrium involves higher prices for all downstream firms without any offsetting efficiency gains, overall social welfare (and, more specifically, consumer welfare) decreases.

28. Several economists have applied this framework to analyze issues of discrimination in high-technology industries.[25] For example, Professors Jeffrey Church and Neil Gandal have investigated foreclosure while treating the downstream product as a system

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21. Dennis W. Carlton, *A General Analysis of Exclusionary Conduct and Refusal to Deal—Why* Aspen *and* Kodak *Are Misguided*, 68 ANTITRUST L.J. 659 (2001).

22. *See, e.g.*, Janusz A. Ordover, Garth Saloner & Steven Salop, *Equilibrium Vertical Foreclosure*, 80 AM. ECON. REV. 127, 133-42 (1990).

23. Their model assumes two upstream firms and two downstream firms. *Id.* at 131. The results can be replicated with additional firms.

24. Despite the fact that there is some degree of competition at both the upstream and downstream levels, an equilibrium with foreclosure can occur if: (1) the downstream firms' revenues are decreasing in the price of the input (that is, if the price of the final good does not increase as fast as the quantity demand of the final good falls), and (2) the nonintegrated upstream firms do not have sufficient incentive to raise prices to the nonintegrated downstream firms (otherwise, the nonintegrated downstream firms will lose so much share that they will have an incentive to merge with upstream firms).

composed of hardware (supplied by the downstream provider) and its complementary software (supplied by the upstream provider).[26] In the Church-Gandal framework, the value of the system increases as the variety of the available software grows. Foreclosure involves a decision to make one's software incompatible with rival hardware technologies, which again amounts to conduit discrimination. Against the backdrop of vertical integration in the cable television industry, Church and Gandal "expect that conflicts over access to content will arise with the development of the information highway and competition between alternative technologies and vendors."[27] Church and Gandal demonstrate that foreclosure by a single firm, when the other firm does not retaliate in kind, can occur if either: (1) the hardware products are highly differentiated *and* the marginal value of software variety is small; or (2) the hardware products are not highly differentiated. They identify both direct and indirect effects of foreclosure on hardware (downstream) profits:

> The direct effect is the increase in demand from the differential created in software availability for the two hardware systems. The indirect effect is the associated change in hardware pricing. The increase in demand can provide the foreclosing firm with incentives to charge *higher prices* for its hardware.[28]

After noting that there appears to be little product differentiation among the hardware products, Church and Gandal conclude with the following policy implication: "consent decrees that require integrated 'hardware/software' firms to make software available on a non-discriminatory basis for other hardware technologies might prevent foreclosure that would lead to socially inefficient standardization on one of the platforms."[29]

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25. *See, e.g.*, Rubinfeld & Singer, *supra* note 4 (examining the incentives of a vertically integrated broadband Internet access provider's incentives to discriminate against unaffiliated broadband content).
26. *See* Jeffrey Church & Neil Gandal, *Systems Competition, Vertical Merger, and Foreclosure*, 9 J. ECON. & MGMT. STRATEGY 25, 25 (2000).
27. *Id.* at 27.
28. *Id.* at 28 (emphasis in original).
29. *Id.* at 47.

C. The Neo-Chicago Refinements

29. In response to the Post-Chicago exceptions, defenders of the Chicago School have criticized the equilibrium foreclosure models for their reliance on an inefficiency in static contracting.[30] Although they criticize the foreclosure models, economists from the Chicago School have refined those models so as to narrow the circumstances under which policy intervention is warranted. We identify below two specific cases where the Neo-Chicago analysis indicates that the need may exist, on grounds of consumer welfare maximization, for regulatory intervention to compel a vertically integrated firm to deal with a rival. Stated differently, the refinements to the Chicago approach are all ways in which the vertically integrated firm could achieve more than "one monopoly profit."

30. Both cases share general assumptions on market power and vertical integration. In the first case, additional assumptions are necessary concerning (1) scale economies in the production of the complementary good and (2) the perceived relationship between the downstream good and the complementary good for at least some customers. In the second case, additional assumptions are necessary concerning (1) network effects in the consumption of the complementary good and (2) the possibility that the unaffiliated upstream provider might eventually compete directly or indirectly in the downstream market.

1. Market Extension Motivations for Discrimination

31. Professor Michael Whinston recognized that in the presence of scale economies in the production of the complementary good, the unaffiliated rival would not be completely

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30. In the static foreclosure models, the advantage of the vertically integrated firm derives from its ability to force unaffiliated downstream providers to face market power in purchasing the upstream good, and the inability of the upstream and downstream unaffiliated firms to write an efficient contract. *See* Carlton, *supra* note 21, at 668.

insulated from the actions of the vertically integrated firm.[31] If the refusal of the vertically integrated firm to deal with the unaffiliated rival causes the rival's output to drop below an economically efficient scale, Whinston explained, the rival might consider exiting the industry. Assuming that at least some consumers wanted *only* the service produced by the rival firm, those consumers would suddenly face a monopolist and they consequently would suffer a harm from reduced competition. In his review of the foreclosure literature, Professor Carlton uses as an example of this case a monopoly resort hotel on an island where hotel workers live.[32] If the resort forced its guests to eat only at the hotel, and if the restaurants outside the resort failed to achieve sufficient sales to remain in operation, then island natives would suffer a loss of welfare in relation to their consumption of meals.[33]

2. Market Preservation Motivations for Discrimination

32. As a second motivation for discrimination, the vertically integrated firm can use its head start as the initial monopolist of the downstream product to harm *future* competitors in the downstream market by refusing to buy the upstream product from its rival. In this case, the goal of discrimination is to keep the unaffiliated rival initially so small in its production of the upstream product that, in future periods, it is not an effective supplier of that product to competitors of the vertically integrated firm in the market for the downstream product.[34]

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31. *See* Michael Whinston, *Tying, Foreclosure and Exclusion*, 80 AM. ECON. REV. 127 (1990).
32. Carlton, *supra* note 21, at 667.
33. The threat of discrimination against unaffiliated rivals in the face of scale economies formed the underpinnings of the consent decree secured by the Federal Trade Commission's (FTC) in 1996 in the merger of Time Warner and Turner Broadcasting System, Inc. *See* Time Warner, Inc., et. al.: Proposed Consent Agreement, 61 Fed. Reg. 50,301 (Sept. 25, 1996).
34. Carlton, *supra* note 21, at 669.

33. For example, some scholars[35] have argued that a monopolist of computer operating systems could tie applications programs to its systems to prevent new applications programs from developing:

> In subsequent periods, entry of new operating systems would occur *if* there existed a stock of independent application programs. But, by assumption, such programs don't exist because Firm 1 prevented their development by foreclosing the initial market to them.[36]

This theory is complementary to the motivations of early vertical foreclosure theories because, in contrast to the goal of *extending* market power into a complementary market, the dynamic models demonstrate—theoretically, at least—that foreclosure can also be motivated by the goal of *preserving* market power in future periods.

34. Finally, it is important to note that discrimination need not be *complete* to have the anticompetitive effects that are predicted in the model. Complete exclusion is the limiting case and may make the modeling most tractable, but it is enough that the rival is inhibited or hobbled for the practice to have the potential to harm competition. In fact, of the three exclusionary mechanisms posited above in our summary of conclusions—degradation of the quality of unaffiliated content, refusal to carry unaffiliated content, and conditioning carriage of unaffiliated content on the payment of an exorbitant rate—only the second unambiguously involves complete foreclosure from the market.

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35. *See, e.g.*, Declaration of David Sibley, United States v. Microsoft Corp., 147 F.3d 935 (D.C. Cir.) (No. 98-1233); DAVID S. EVANS, DANIEL L. RUBINFELD, FRANKLIN M. FISHER, & RICHARD L. SCHMALENSEE, DID MICROSOFT HARM CONSUMERS? TWO OPPOSING VIEWS, American Enterprise Institute (June 1, 2000).

36. *Id.* One of us has written on the vertical issues raised in the Microsoft case. Note that the second tie-in claim against Microsoft involved the physical commingling of the code of Internet Explorer and Windows. Interfering in that tie requires the judgment that "going inside a firm" to redesign a product will not impose high costs. By disabling the interactive component of Disney's content, however, the vertically integrated cable firm would be "going inside of Disney"—a place where the cable firm lacks any antitrust protections. *See* J. Gregory Sidak, *An Antitrust Rule for Software Integration*, 18 YALE J. ON REG. 1 (2001).

II. Should a Cable Firm Be Allowed to Discriminate Against Unaffiliated Interactive Content Providers?

35. We now consider whether the necessary assumptions of the Neo-Chicago models of discrimination are satisfied in the case of distribution of interactive television services over cable. We conclude that they are and that a cable firm has the incentive to discriminate against unaffiliated content providers of interactive content.

A. Application of the Neo-Chicago Refinements to the Present Case

36. In the present case, the downstream market is multichannel video program distribution (MVPD),[37] and the upstream market is video programming, which can be either non-interactive or interactive. The Commission has embraced identical market definitions for the upstream and downstream market in its annual survey of the industry.[38] Moreover, in the *Vertical Ownership Limits Report and Order*, the Commission in 1995 explained how vertical relationships might deter competitive entry in the video marketplace and limit the diversity of programming.[39] Hence, at a first glance, the vertical models presented in the preceding section could potentially apply to a vertically integrated cable firm.

37. In the previous discussion, we identified two specific situations in which regulatory intervention may be needed to preserve competition and protect consumer welfare.

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37. Because *current* ITV applications require two screens but one conduit—namely, the cable plant—some might debate whether the appropriate downstream market is the residential broadband access market or the MVPD market, or both. As ITV applications develop, however, consumers will be able to experience interactivity with a single set-top device in their living rooms. Because a DSL connection in combination with a one-way satellite connection will not provide an effective substitute for cable for those one-screen ITV applications in the future, we believe the appropriate downstream market is the MVPD market. Stated differently, if there is future downstream competition to carry interactive programming, it will more likely take place between the cable MSO and DBS providers, than between cable modems and DSLs.

38. *See, e.g.*, Seventh Annual Report on Competition in Video Markets, CS Dkt. No. 00-132 (released Jan. 8, 2001) ("The video programming market is comprised of two separate but related markets: (a) the market for the distribution of multichannel video programming to households, and (b) the market for the purchase of video programming by MVPDs") [hereinafter *Seventh Annual Report*].

Each situation shares two general assumptions on market structure. With respect to the general assumption on vertical integration, as of January 2001 several cable MSOs were significantly integrated into video content:

- Cable MSOs such as AOL-Time Warner, Cox, AT&T owned 35 percent of the total number of programming services in operation.[40]
- One or more of the top five cable MSOs held an ownership interest in each of 99 vertically integrated national programming services.[41]
- Many of the 27 sports channels were owned at least in part by cable MSOs. Thirty regional and local news networks were owned at least in part by cable MSOs.[42]
- Of the 281 networks, 99 networks, representing 35 percent, were vertically integrated with at least one cable MSO.[43]
- Eleven of the top 20 video programming networks ranked by primetime ratings were vertically integrated with cable MSOs.[44]

When considered in light of the recent vertical merger between AOL (the largest Internet service provider and aggregator of broadband content) and Time Warner (the second largest MVPD), the above facts suggest that the general assumption on vertical integration between cable conduit and content is likely to be satisfied.

38. With respect to the general assumption concerning downstream market power inside their respective (local) footprints, as of the end of 2000 cable firms controlled 80 percent of the downstream MVPD market. A July 2000 study by the General Accounting Office (GAO) suggested that direct broadcast satellite (DBS) providers do not exert significant pricing pressure on cable service prices.[45] In particular, the GAO found—paradoxically—that greater DBS penetration was correlated with somewhat *higher* cable rates in 1998, and that the presence of a

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39. Implementation of Section 11(c) of the Cable Television Consumer Protection and Competition Act of 1992 Vertical Ownership Limits, MM Dkt. 92-264, Memorandum Opinion and Order on Reconsideration of the Second Report and Order, 10 F.C.C. Rcd. 7364, 7365 ¶ 4 (1995).

40. *Seventh Annual Report, supra* note 38, at ¶ 173.

41. *Id.*

42. *Id.*

43. *Id.* at ¶ 173.

44. *Id.* at ¶ 175.

non-satellite competitor, such as another cable company or a "wireless cable" operator, was more likely to result in lower cable rates.[46] The GAO's conclusions about the lack of effective competition in the MVPD market were consistent with the FCC's *2000 Price Survey Report*, which found that "competitive" and "non-competitive" cable operators increased average monthly rates for basic service tier (BST) and cable programming service tiers (CPSTs) *at the same rate* during the twelve-month period ending July 1, 2000.[47] In the *Seventh Annual Report*, the Commission determined in January 2001 that "of the 33,000 cable community units nationwide, 330, or only 1 percent have been certified by the Commission as having effective competition as a result of consumers having a choice of more than one MVPD."[48]

39. Additional evidence on geographic consolidation supports the proposition that cable firms have market power. In the *1999 Price Survey Report*, the Commission determined that cable operators that were part of a regional cluster had, on average, higher monthly rates than cable operators that were not part of a cluster. That is, the FCC found a positive relationship to exist between average monthly rates and clusters. "While clustering may help reduce programming and other costs . . . ," the Commission concluded, "our findings show that these lower costs are not being passed along to subscribers in the form of lower monthly rates."[49]

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45. GENERAL ACCOUNTING OFFICE, THE EFFECT OF COMPETITION FROM SATELLITE PROVIDERS ON CABLE RATES (July 2000).

46. *Id.*

47. Implementation of Section 3 of the Cable Television Consumer Protection and Competition Act of 1992, Statistical Report on Average Rates for Basic Service, Cable Programming Services, and Equipment, MM Dkt. No. 92-266, Report on Cable Industry Prices ¶ 4 (released Feb. 14, 2001). Under the Commission's definition, effective competition occurs when at least one of the following four tests is satisfied: (1) the "overbuild test," (2) the "low penetration test," (3) the "municipal test," or (4) the "LEC test." For a detailed explanation of those tests, see *id.* at n.2.

48. *Seventh Annual Report, supra* note 38, at ¶ 138.

49. Implementation of Section 3 of the Cable Television Consumer Protection and Competition Act of 1992, Statistical Report on Average Rates for Basic Service, Cable Programming Services, and Equipment, MM Dkt. No. 92-266, Report on Cable Industry Prices, 15 F.C.C. Rcd. 10927, 10943 ¶ 39 (2000).

Based on the information currently available,[50] we proceed under the assumption that cable firms have market power in the MVPD market.

1. Are There Scale Economies in the Production of Interactive Content, and Do Some Customers Perceive the Unaffiliated Interactive Content Not to Be a Complement to the Cable Conduit?

40. Once the Commission has established the basis by which to infer the existence of market power, the agency must then determine whether the specific assumptions of either of the two cases presented in Part I.C. are also satisfied. Recall that, in the first case, the two critical assumptions are that (1) scale economies exist in the production of the complementary good and (2) at least some customers want only the output of the rival firm.

41. With respect to the first condition, most of the production costs of interactive content, like the production costs of non-interactive programming content, are up-front sunk costs.[51] These up-front costs are very high, particularly for a program producer seeking to develop content that can compete with the interactive offerings of affiliated content providers, such as CNN and other AOL Time Warner marquee programming. If the cost structure for producing marquee interactive content for the next generation of cable television resembles that of producing non-interactive content for the current generation of cable television, we would expect substantial economies of scale to inhere in the production of interactive content.

42. With respect to the second condition, one must identify a set of consumers who perceive unaffiliated programming not to be a complement to the cable conduit. Clearly, for the 15 percent of MVPD customers *inside* the cable firm's territory who subscribe to DBS service,

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50. A full investigation by the Commission on the extent of cable market power would require an analysis of the historical substitution by cable customers toward alternative MVPD offerings in response to a change in (the relative) price of cable service.

51. *See, e.g.*, LELAND JOHNSON, TOWARD COMPETITION IN CABLE TELEVISION 156 (MIT Press & AEI Press 1994). These sunk costs are analoguous to the "first negative" costs of making a motion picture. For the effects of

and for all MVPD customers *outside* the cable firm's territory, non-cable affiliated programming is not perceived to be a complement to the cable conduit. Stated differently, the in-region DBS subscribers and out-of-region MVPD subscribers in general play the same (unfortunate) role as the island natives in Professor Carlton's hotel example discussed earlier.[52] If, by denying carriage or degrading the quality of interactive programming from unaffiliated content providers, the cable conduit induces exit from the content market, then DBS customers could face fewer choices in the supply of interactive programming and thus will suffer a harm from reduced competition. Hence, a vertically integrated cable MSO could potentially extend its market power into the content market by engaging in content discrimination.

2. Are There Network Effects in the Consumption of Interactive Content, and Is It Possible that the Unaffiliated Content Provider Might Eventually Compete Directly or Indirectly in the Downstream MVPD Market?

43. Next, we examine whether the conditions of the second case for regulatory intervention to protect consumer welfare are satisfied. Recall that the vertically integrated cable MSO might also degrade the interactive features of unaffiliated content providers as a means to *preserve* its market power in the downstream conduit market in future periods. Here, the two critical assumptions are that (1) network effects exist in the consumption of the complementary good and (2) the unaffiliated content provider might eventually compete directly or indirectly with cable in the downstream conduit market. With respect to the first condition, certainly the desirability to a consumer of a particular variant of interactive content will depend on how many other consumers view that variant. For example, a large portion of the enjoyment that a customer derives from watching *Who Wants To Be A Millionaire?* is the ability to discuss the latest

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scale on media product distribution, see BRUCE OWEN & STEVEN WILDMAN, VIDEO ECONOMICS 23-63 (Harvard University Press 1992).

episode with friends and colleagues during the week. Because interactive applications by definition involve *more* interaction with other users than non-interactive applications, we would expect this same phenomenon to be even more pronounced with respect to interactive content. It should be no surprise that the networking industry is subject to network effects.[53]

44. With respect to the second condition, DBS providers, which compete with cable firms in the downstream market, depend critically on the continued development of non-cable-affiliated content providers. To the extent that content discrimination by cable firms could drive out unaffiliated content providers, DBS providers would become more dependent on cable firms to supply both interactive and non-interactive content. For example, DirecTV has argued that access to quality programming (especially sports programming) is an essential element for the successful development of a competitive MVPD business.[54] DirecTV's continued growth will depend on the health of unaffiliated content providers, which in turn, depend on the protections embodied in the nondiscrimination statute.

45. In summary, the necessary conditions for regulators to take seriously the threat of content discrimination appear to be satisfied in the context of interactive television. If subjected to content discrimination by cable MSOs, unaffiliated interactive content rivals could not reach a sufficiently large set of customers through alternative conduits. Stated differently, the other broadband conduits lack a customer base large enough to restore a content provider's lost revenues from cable customers. The 15 percent market share of DBS providers as of spring 2001

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52. The cable MSO presumably can extract a percentage of the content margins from its own customers through its pricing of access.

53. This conclusion finds support, of course, in the substantial economic literature on network effects or network externalities. *See* SIDAK & SPULBER, *supra* note 2, at 547-48; *See also* Jeffrey H. Rohlfs, *A Theory of Interdependent Demand for Telecommunications Services*, 5 BELL J. ECON. & MGMT. SCI. 16 (1974). Further theoretical support comes from the economic literature on consumer behavior with respect to fads. *See, e.g.*, Gary S. Becker, Michael Grossman & Kevin H. Murphy, *Rational Addiction and the Effect of Price on Consumption*, 81 AM. ECON. REV. 237 (1991).

would not likely present an interactive content provider the opportunity to recoup lost profits on cable sales. Even for cable customers who would attempt to switch to DBS in the face of content discrimination, the existence of significant switching costs (for example, the time and complexity of switching and the expense purchasing a satellite dish and receiver) would require considerable content-specific loyalty to induce a cable customer to switch to DBS in the event of content discrimination.[55] This effect would be particularly acute because interactive content providers would need to spread development costs over a larger customer base, which denial of access to a cable firm's customer base would prevent.

B. A Cable Firm's Incentives to Discriminate Against Unaffiliated Interactive Content Providers

46. The foregoing discussion concerned a cable firm's *ability* to engage in content discrimination against unaffiliated interactive content suppliers. To complete the analysis, one must consider whether a cable MSO would have an *incentive* to engage in content discrimination by impairing its customers' access to unaffiliated interactive content. For example, AOL Time Warner could refuse to carry the interactive components of ABC's *Who Wants To Be A Millionaire* (viewers would not be able to play along with contestants or with other viewers), while leaving the non-interactive components intact (viewers could still watch the show). This form of discrimination would enhance the position of AOL's affiliated interactive content providers in the national market by denying unaffiliated interactive content providers critical operating scale and by insulating affiliated interactive content providers from competition.

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54. *Seventh Report, supra* note 38, at n597 (citing DirecTV Comments at 15).

55. To the extent that customers are plagued by the fallacy of sunk costs, they might erroneously take the cost of the new cable set-top box into the decision to switch to DBS as well. This possibility may explain why consumers are hesitant to switch to DBS once they have purchased a two-way set-top box.

47. In most localities, there is a single cable MSO facing some DBS competition, which is sufficiently weak to allow the cable system to exercise market power, but important enough (at least in potential for the future) to make it profitable for the cable system to deny it access to non-cable affiliated content providers within its regional footprint. The cost to a cable MSO of engaging in content discrimination is the potential loss in revenue from cable customers who demand the withheld or degraded interactive content. The magnitude of that foregone revenue increases with the degree to which cable MSOs compete against DBS and other MVPD providers. Hence, the vertically integrated cable MSO will have an incentive to engage in content discrimination if the gain from additional nationwide sales of affiliated content and advertising exceed the reduction in cable access charges resulting from lost cable subscribers.

48. Content discrimination results in lost in-region access sales for the vertically integrated cable MSO, but potentially greater content and advertising sales across the nation. Content discrimination has a *direct* effect on the cable MSO's content profits: It increases demand for the cable MSO's affiliated content because rival content producers might be thwarted from achieving minimum viable scale. It also has an *indirect* effect—the associated increase in the cable MSO's pricing of content due to the increased demand for its affiliated content. Content discrimination might jeopardize the cable MSO's in-region MVPD share by antagonizing some cable subscribers. A thorough public-interest analysis would require the Commission to determine whether a cable MSO would increase its profits by degrading the interactive content of unaffiliated program suppliers. Although interactive television is new, the competitive danger is not completely foreign because it is not dissimilar to the competitive danger currently recognized by the FCC with the existing nondiscrimination rules for non-interactive content.

III. The Expert Declarations Filed on Behalf of the National Cable Television Association Confuse the Relevant Competitive Issues

49. To bolster its laissez faire approach toward discrimination in ITV services, the National Cable Television Association (NCTA) retained the services of Professor Einer Elhauge of the Harvard Law School, Professor Marius Schwartz of Georgetown University, and Dr. John Gale of the Brattle Group. In the following section, we highlight the major arguments of the NCTA's experts, identify areas of agreement with our own analysis, and, in areas of disagreement, present rebuttals that are supported by economic theory and empirical evidence.

50. Before critiquing their work, it is important to provide some context to the regulatory treatment of cable firms, and how that treatment relates to the present inquiry. At the direction of Congress in 1992, the Commission promulgated rules to prohibit unfair and discriminatory practices by vertically integrated cable operators.[56] The rules seek to promote competition and diversity in the MVPD market by (1) preventing a cable operator or other MVPD from requiring a financial interest in a program service as a condition for carriage, and (2) prohibiting a cable operator of other MVPD from coercing a video programming vendor to provide exclusivity as a condition of carriage. In other words, cable firms may not engage in content discrimination with respect to non-interactive content.

51. A program supplier should not be penalized for investing in and developing interactive content. In this sense, the Commission should not treat the advent of interactive content differently from any other content innovation. How is the innovation of reality-based content (such as *The Mole*) distinguishable from the innovation of interactive content? If an unaffiliated content provider perceives the development of interactive content to be riskier

because, unlike non-interactive content, it is not protected under the FCC's nondiscrimination rules, then that content provider will have an attenuated incentive to invest to develop interactive content. Hence, by ignoring the interactive television concerns of unaffiliated content providers, such as the Non-MVPD-Owned Programming Networks, the Commission could unintentionally retard the development of interactive content—an outcome that would fail to advance either consumer welfare or the public interest.

A. Allowing the Cable Firm to Discriminate Against Unaffiliated Interactive Content from Unaffiliated Content Providers Would Decrease Investment and Innovation in Interactive Programming

52. When considering when to regulate a "nascent" industry like ITV, NCTA's experts urge regulators to consider the effect of regulation on the regulated and non-regulated firms' incentives to invest in interactive content and applications. According to Drs. Schwartz and Gale, regulation of any sort at this stage of the ITV's development would be costly: "Imposing premature regulation of technology choices and business arrangements may . . . foreclose certain technical innovation and variety, raise the costs or degrade the quality of those options that do emerge, and restrict efficient forms of business relationships."[57] Professor Elhauge echoes those remarks, but with more detail about the harms of regulation: "Such a duty [of mandatory access] would also encourage ITV service providers to exercise rights of shared access rather than enter and compete in the ITV platform market, and would discourage ITV platform providers from entering and competing in any ITV service market that might develop."[58] To summarize, NCTA's experts argue that a nondiscrimination rule that would

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56. 47 U.S.C. § 538; 47 C.F.R. § 76.1301 (Section 76.1301 of Commission Rules).

57. Declaration of Marius Schwartz and John Gale on behalf of National Cable Television Association 8 (filed Mar. 19, 2001) [hereinafter *Schwartz & Gale Declaration*].

58. Declaration of Einer Elhauge on behalf of National Cable Television Association 1-2 (filed Mar. 19, 2001) [hereinafter *Elhauge Declaration*]. Professor Elhauge does not hesitate to advocate complex competition rules when

protect unaffiliated interactive content producers would necessarily discourage the intermediate "ITV *platform* market" and all associated services. Hence, the costs of regulation outweigh the benefits. Their dire predictions are not plausible for several reasons.

53. *First*, the relevant product market that nondiscrimination requirements would protect is the content market, not the "ITV platform market," as Professor Elhauge asserts. Regardless of whether "entry" occurs in the "ITV platform market" (which we interpret to mean set-top-boxes), vertically integrated cable firms will still possess significant market power in the downstream conduit market and could leverage that power into the neighboring content market. The nondiscrimination rules that the Non-MVPD-Owned Programming Networks seek would not address the treatment of unaffiliated set-top-box makers. Hence, it is difficult to understand how such rules would affect the development of advanced set-top-boxes.

54. *Second*, even if the Commission's abstention from imposing a "duty to share" would induce unaffiliated interactive content providers to "enter and compete in the ITV platform market," as Professor Elhauge opines, unaffiliated suppliers of interactive content would still depend on the goodwill of vertically integrated cable firms to preserve the integrity of the interactive signals as they moved through the cable firm's conduit. Dr. Eric Haseltine, Executive Vice President of Walt Disney Imagineering Research and Development, explains that it is technologically possible for the vertically integrated cable provider to discriminate against unaffiliated interactive content even when a third-party vendor provides the set-top-box.[59] Stated differently, encouraging competition in the intermediate "ITV platform market" would not

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the "platform" is Microsoft's Windows operating system and the complementary good is a web browser rather than ITV services. *See* Einer Elhauge, *Microsoft Gets an Undeserved Break*, N.Y. TIMES, June 29, 1998, at A17.

59. *See generally* Declaration of Eric Haseltine on behalf of Walt Disney Company (Sept. 25, 2000), Applications of America Online, Inc. and Time Warner , Inc. for Transfers and Control, CS Dkt. No. 00-30 (received Sept. 26, 2000).

alleviate the bottleneck at the conduit level. Hence, such considerations distract from the real policy concern that the FCC's *Notice of Inquiry* properly addresses.

55. *Third*, with respect to innovation in interactive content by unaffiliated content providers—the service properly deserving the FCC's policy analysis—we believe that, contrary to Professor Elhauge's view, the FCC's *failure* to impose nondiscrimination protections would actually decrease investment in interactive programming by unaffiliated content providers. As we explained earlier, the Commission's nondiscrimination rules protect non-interactive content produced by unaffiliated content providers; the rules thereby encourage innovations in content. If one extends the logic of the NCTA's experts, however, one gets the paradoxical rule that innovations that are considered to be *too* innovative, such as interactive content, should not be protected under the existing nondiscrimination rules. The NCTA's experts would be hard pressed to explain the difference between content innovations that are protected by the nondiscrimination rules (such as reality-based television shows) and content innovations that a vertically integrated cable firm may legitimately block. If unaffiliated content providers believe that certain innovations will not be protected from discrimination, then those providers will far less be willing to incur risks in the development of interactive programming. Hence, the aggregate level of investment in interactive content would decrease.

56. *Fourth*, with respect to investment in two-way broadband capabilities by cable firms—potentially a second service deserving the FCC's serious policy scrutiny—it is not credible that the cable firms would have deferred (or refrained from making) those investments if they could not capture the *monopoly* rents (which could only be achieved through discrimination against unaffiliated content providers) associated with interactive television applications.

Professor Elhauge, however, suggests that cable firms would not have made the investments in two-way capabilities had they known that they would be subject to these regulations:

> If competitors are able to reap the rewards, through mandated-access rules of a commercially successful ITV platform developed at great expense by another company, then this reduces the expected payoffs from making the investment in the first place. As Michael Armstrong succinctly explained, "no company will invest billions of dollars . . . if competitors [that] have not invested a penny of capital nor taken an ounce of risk can come along and get a free ride in the investments and risks of others."[60]

In 1999 cable firms collectively invested $3.4 billion to upgrade their cable systems for two-way broadband capabilities ($2.3 billion for general system upgrades necessary to deploy high-speed data and $1.1 billion specifically for data access system modifications),[61] which enabled the provisioning of broadband service to 52 percent (50.3 million) of the country's 96.6 million homes passed by cable.[62] By the end of 2001, the number of homes readied for two-way cable broadband is expected to reach 60 percent of all homes passed by cable.[63] Cable firms surely justified making those significant investments with the margins that those firms expected to make on broadband Internet access and the associated advertising revenues. Even though the conduit market is obviously more relevant than the ITV platform segment from a competition policy perspective, NCTA's experts oddly do not address the incentives of the cable firm to continue upgrading the one-way cable plant. Perhaps they too recognize that continued upgrades would not be at risk.

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60. *Elhauge Declaration, supra* note 58, at 7.
61. RICHARD BILOTTI, BENJAMIN SWINBURNE, GARY LEIBERMAN & MARC NABI, *1Q00 REVIEW/2Q00 PREVIEW: PARTY ON AT THE OLIGOPOLY LOUNGE*, Morgan Stanley Dean Witter, Apr. 4, 2000, at 33.
62. STANFORD C. BERNSTEIN & CO. AND MCKINSEY & CO., INC., BROADBAND! 30 (Jan. 2000).
63. *Id.*

C. A Cable Firm Would Not Consider the Costs of Discrimination in Isolation When Deciding Whether to Discriminate Against Unaffiliated Interactive Content

57. According to Drs. Schwartz and Gale, a vertically integrated cable firm would consider the costs of content discrimination in isolation when deciding whether to block or degrade unaffiliated interactive content on the cable platform:

> One cannot presume that even an input monopolist would necessarily have strong incentives to significantly disfavor rivals of its downstream affiliate: those retail-market rivals are also its customers for access services, so handicapping them entails a loss of profitable access sales. To the extent that independents may be more efficient than the monopolist's affiliate or private valuable variety to consumers, discrimination against them will cause a significant reduction in the monopolist's access business, and therefore may prove unprofitable.[64]

We do not dispute the notion that content discrimination might be costly. The relevant calculus for the vertically integrated cable firm, however, involves a weighting of the costs *and* benefits associated with content discrimination. Moreover, we do not consider the costs of all forms of discrimination to be significant, especially if the discrimination is subtle. For example, Time Warner's decision in 2000 to block entirely ABC programming from its New York cable networks during "sweeps week" was a brazen form of content discrimination,[65] which potentially induced some cable customers to seek an alternative MVPD.[66] A more subtle form of discrimination, such as degrading the interactive signals of unaffiliated content providers only, would be more difficult to observe and hence would result in fewer defections by cable subscribers. Indeed, the FCC recognized in its *Notice of Inquiry* that "one type of discriminatory behavior might be for a cable operator to agree to carry in its video pipeline the ITV enhancements of an affiliated video signal but not those of an unaffiliated video signal."[67]

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64. *Id.* at 2
65. *See, e.g.*, Jim Rutenberg, *ABC Goes Off Cable Systems In Key Markets*, N.Y. TIMES, May 1, 2000, at *1.
66. *See, e.g.*, Jayson Blair, *Small Provider Sees Gain in Cable TV Fight*, N.Y. TIMES, May 7, 2000, at *1; Jim Rutenberg, *Time Warner-Disney Fight Is a Boon for Satellite TV*, N.Y. TIMES, May 5, 2000, at *1.
67. *Notice of Inquiry*, *supra* note 1, at ¶ 26.

Indeed, we agree with Drs. Schwartz and Gale when they write: "Discrimination might . . . be targeted to favor certain affiliated ITV service providers over others, to the extent the access provider can—through contractual or other arrangements—capture enough of the profits accruing to those unaffiliated entities favored by its discrimination."[68]

58. Finally, Drs. Schwartz and Gale mischaracterize the circumstances under which content discrimination can produce benefits for the vertically integrated firm. They assert that "access discrimination can be profitable under certain circumstances (e.g., to sustain price discrimination [in the content market] or, if [content] competition is significantly imperfect, to shift [content] profits from rivals to the affiliate."[69] Although they are correct in the characterization of the leveraging argument, Drs. Schwartz and Gale ignore the major source of benefit to the cable firm from content discrimination—namely, gains in content sales *outside* of the cable firm's footprint. It is conceivable that the gains *in-region* from increased sales of affiliated interactive content to DBS providers do not outweigh the losses on access sales from marginal cable customers who switch to DBS. The complete calculus, however, involves consideration of *all* potential revenues—not just in-region gains—that could be realized if discrimination induced exit (or decreased investment) by nonaffiliated interactive content providers. If Drs. Schwartz and Gale were to apply this complete calculus, they might reach a different conclusion concerning the incentives to engage in content discrimination.

D. Professor Elhauge's Attack on the Essential Facilities Doctrine Is Misdirected

59. Professor Elhauge uses the essential facilities doctrine as a straw man in his unconvincing effort to refute the need for nondiscrimination protection for unaffiliated providers of interactive television programming. Indeed, Professor Elhauge admits as much when he says

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68. *Id.* at 5.

that the *Notice of Inquiry* "appears to implicitly invoke antitrust's essential facilities doctrine, though without spelling out all its limitations"—doubly qualifying the inference as both an appearance and implicit.[70] The application of the essential facilities doctrine in the present case is incorrect for several reasons.[71] Although Professor Elhauge correctly summarizes the steps of the essential facility test, he fails to explain why the essential facilities doctrine applies to the present case:

> Looking to this antitrust doctrine [of essential facilities] makes sense, for while the U.S. Supreme Court has expressly declined to decide whether to accept it for antitrust, development by the lower courts has established the strict conditions that must be proven if the doctrine is to have any hope of fostering rather than retarding competition . . . .
>
> Moreover, the U.S. Supreme Court has held that common carrier provisions in the telecommunications statutes must be informed by antitrust's essential facilities doctrine. Regulators imposing a *duty to share* may not need precisely [sic] the same proof as the essential facilities doctrine, but do need *something related* to it in terms of proof that the requesting firm could not get the facility elsewhere and suffered more than just increased costs of decreased quality from denial.[72]

Professor Elhauge provides no connection between a vertically integrated cable operator and a common carrier. Although he admits that the essential facilities doctrine might not apply in the present case, Professor Elhauge nonetheless expresses that "something related" to the doctrine must apply. One is left wondering whether Professor Elhauge wants to assume that the essential facilities doctrine applies simply to demonstrate that the conditions associated with something not at issue in this proceeding are not met.

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69. *Schwartz & Gale Declaration*, *supra* note 57, at 2.

70. *Elhauge Declaration*, *supra* note 58, at 16.

71. For the appropriate conditions to apply the essential facilities doctrine, see Howard A. Shelanski & J. Gregory Sidak, *Antitrust Divestiture in Network Industries*, 68 U. CHI. L. REV. 1 (2001); J. Gregory Sidak, *An Antitrust Rule for Software Integration*, 18 YALE J. ON REG. 1 (2001); Jerry A. Hausman & J. Gregory Sidak, *A Consumer-Welfare Approach to the Mandatory Unbundling of Telecommunications Networks*, 109 YALE L.J. 417 (1999); Abbott B. Lipsky, Jr. & J. Gregory Sidak, *Essential Facilities*, 51 STAN. L. REV. 1185 (1999).

72. *Elhauge Declaration*, *supra* note 58, at 16 (emphasis added).

60. Finally, it bears repeating that the Non-MVPD-Owned Programming Networks do not seek to impose on cable operators a "duty to share"[73] their facilities, contrary to what Professor Elhauge asserts. Unlike competitive local exchange carriers (CLECs) in the local exchange services market, an unaffiliated content provider is *not* seeking to obtain capacity in the cable pipeline at a wholesale rate only to resell it to end users at retail prices. Instead, the Non-MVPD-Owned Programming Networks are seeking protections for a portion of their signal—namely, the interactive portion—that is *already* carried by cable firms. Unaffiliated providers of interactive television service do not resemble CLECs. Indeed, the FCC stated in its *Notice of Inquiry* that "it is important to note that we are not seeking comment on mandatory access to cable capacity for ITV service providers."[74]

61. Clearly the antitrust theory of monopoly leveraging and monopoly preservation that we articulate in Parts I and II of this declaration does not rely on the assumption that the there are no substitutes to the conduit of the vertically integrated firm. In fact, the dynamic model that presents the monopoly preservation motivation requires at least the threat of some future downstream competition. Why else would the vertically integrated firm incur (in-region) losses in the downstream conduit market unless it believed that it could fend off future competition from downstream rivals that rely on a robust content market? Setting aside the issue of monopoly power, Professor Elhauge is not prepared to admit that vertically integrated cable firms even have market power in the downstream conduit market:

> There is nothing to prevent rivals from competing to sell set-top boxes in any region. Indeed, set-top boxes can and are being sold by firms *other than cable companies*, as with Web-TV or AOLTV.[75]

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73. *Id.*
74. *Notice of Inquiry, supra* note 1, at ¶ 21.
75. *Id.* at 4 (emphasis added).

His analysis is flawed for several reasons. *First*, according to Professor Elhauge, AOL-Time Warner does not represent a vertically integrated content provider, despite the fact that AOL recently acquired nearly 20 percent of all U.S. homes through its acquisition of Time Warner.

62. *Second*, even if those firms were truly independent entities, as Professor Elhauge incorrectly asserts, the fact that entry has occurred at some intermediate level of the production chain—namely, several distinct firms offer set-top-boxes—would not alleviate the bottleneck *at the conduit level.* So long as vertically integrated cable firms have market power in the downstream conduit market, discrimination against unaffiliated interactive content provider may occur. But, according to Professor Elhauge, competition has already occurred and is ubiquitous at the conduit level. He argues that, "even if we limit consideration to cable companies, the fact is that in *many* markets competition exists between rival cable companies that have wired the same localities, and in other cable markets it may be possible for a second cable company to do the wiring and create cable competition."[76] Unfortunately, such "overbuilds" are not so ubiquitous as Professor Elhauge and the cable companies would have the FCC believe. According to the *Seventh Report*, between 1995 and 1999, competing franchises were awarded for service to only 369 communities nationwide, with the potential to serve no more than 18.5 percent of U.S. homes.[77] In an April 2001 survey article, *Forbes* characterized the overbuilding segment as being moribund.

> Today RCN [the most aggressive overbuilder] is limping along, albeit no less cocky, in the handful of cities in which the company remains. Most phone companies have abandoned their cable efforts, while the few entrepreneurs who survive have lowered their ambitions.[78]

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76. *Elhauge Declaration, supra* note 58, at 5 (emphasis added).
77. *Seventh Report, supra* note 38, at 20.
78. Dorothy Pomerantz, *If You Overbuild It: Cable competition was supposed to be a dream come true for consumers. It's turned into a nightmare for the companies providing it.*, FORBES, Apr. 16, 2001, at 144.

To summarize, Professor Elhauge inappropriately applies the essential facilities doctrine to the present case, and errs in concluding that discrimination is not a concern because the elements of the essential facilities doctrine are not met in the MVPD market.

E. Professors Elhauge and Schwartz Incorrectly Argue that Intervention Is Never Appropriate for a Nascent Industry

63. To excuse the cable industry from a nondiscrimination obligation, NCTA's experts argue that any rules at this stage are inappropriate because the future of interactive television is so speculative. Professor Elhauge argues:

> [E]ven if we could with confidence predict that ITV services and platforms will be separate markets, and that a relevant monopoly will develop over the ITV platform market, it would take a crystal ball to tell what the precise content of ITV services and platforms will turn out to be. Without knowing these technological facts, one cannot know whether in fact ITV platforms will be nonduplicable or whether access to them will be essential for rival providers of ITV services. One cannot determine the appropriate technological limits for any duty to share. Indeed, the technological content is so unclear one cannot at present really know what nondiscrimination would mean or how best to define it to further any regulatory purposes.[79]

Drs. Schwartz and Gale echo that logic: "[H]ow can one design regulation to ensure nondiscriminatory access for ITV service providers when, as is true today, so little is known with confidence about the nature of these services and their access requirements."[80] The argument is unconvincing because the circumstances are *identical* to the entirely familiar relationship between vertically integrated cable firms and unaffiliated non-interactive content providers. NCTA's experts would have the FCC believe that certain innovations by unaffiliated content providers that take advantage of cable's new two-way capabilities are so revolutionary that the agency cannot possibly conceive of how the competitive landscape might take shape. The nondiscrimination issue concerning interactive television is new wine in old bottles.

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79. *Elhauge Declaration, supra* note 58, at 5-6.

64. Finally, regulation may sometimes be more appropriate for nascent industries than mature industries. For example, the then-nascent wireless industry was "saddled" with regulation in the form of spectrum limitations to ensure that each geographic market was served by several carriers. To the extent that the spectrum cap encouraged entry by new carriers, wireless consumers may have benefited from these regulations—wireless prices have declined significantly year after year as the number of carriers serving each geographic market has increased.[81] As the industry develops and competition takes shape, regulators can reexamine those protections to determine whether they remain necessary.[82] For industries that are subject to network effects, such as the MVPD market and its associated content markets, the stakes are extremely high in the early stages because markets may tip quickly. Delay under such circumstances can readily make the regulatory response too late to be meaningful. Stated differently, with network effects, regulators may not be able to afford to wait for the harms from market power to appear; at that point, it may be too late to restore competition.

CONCLUSION

65. A cable firm has the ability and incentive to engage in discriminatory practices against an unaffiliated interactive content provider. In particular, the cable firm could discriminate in one of three ways: (1) degrade the quality of the interactive portion of a program supplied of an unaffiliated content provider, (2) refuse to carry the interactive portion of a program supplied by an unaffiliated content provider, or (3) condition carriage of the interactive

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80. *Schwartz & Gale Declaration, supra* note 57, at 7.

81. Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993 Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services, Fifth Report (released Aug. 18, 2000), at 14

portion of a program of an unaffiliated content provider upon payment of an exorbitant rate that is tantamount to a refusal to carry such content. The necessary conditions for *anticompetitive* harm to occur appear to be satisfied. Hence, the likelihood that discrimination will occur (or has occurred already) is very real.

66. It is now incumbent on the Commission to determine the magnitude and likelihood of the *procompetitive* benefits associated with such forms of discrimination. For example, discrimination against unaffiliated interactive content providers might improve the efficiencies of the vertical relationships between the cable MSO and its affiliated interactive content provider, or might reduce the prospect of double marginalization for the consumer. Degrading the interactive signal of an unaffiliated rival or just impairing its functionality might create the proper incentives for affiliated interactive content providers to engage in promotional efforts. Once the likelihood and magnitude of those benefits of discrimination are estimated, the Commission can weigh the expected social benefits against the expected social costs, and formulate the proper regulatory response. Until the Commission undertakes that weighing of competitive benefits and costs, however, it cannot conclude that doing nothing to prevent discrimination is the policy that would best advance the public interest.

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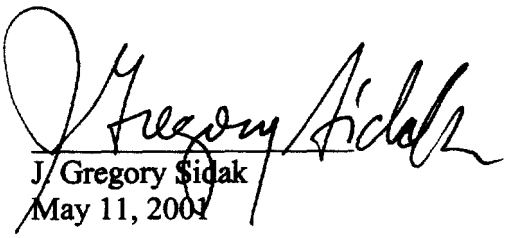
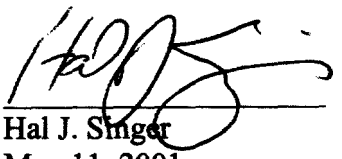
82. For example, in January 2001 the Commission issued a notice of proposed rulemaking to consider whether to remove the spectrum cap. *See* Notice of Proposed Rulemaking, 2000 Biennial Regulatory Review Spectrum Aggregation Limits for Commercial Mobile Radio Services, WT Docket No. 01-14 (released Jan. 23, 2001).

We declare, under penalty of perjury, that the foregoing is true and correct to the best of our knowledge and belief.



J. Gregory Sidak
May 11, 2001



Hal J. Singer
May 11, 2001